

IN THE CLAIMS:

1. (Currently amended) A method for preparing a pharmaceutically or nutraceutically effective composition which comprises adding a compound to said composition a carrier or vehicle to form the composition, the [[a]] compound [[of]] having the formula



wherein X is a primary alcoholic functional group $-CH_2OH$, a carboxylic functional group $-COOH$ or a C₁-C₄ alkyl ester group, and of mono-, di- and tri-glycerides of acid compounds R-COOH and of pharmaceutically acceptable salts of those acids,

wherein R is [[a]] an unsaturated hydrocarbon chain having from 23 to 35 carbon atoms, ~~which is saturated or unsaturated~~, including from one to five ethylenic or acetylenic unsaturations, linear or branched, including from one to five methyl branches, and optionally substituted by from one to three hydroxyl groups.

2. (Currently amended) A method for preparing pharmaceutical or nutraceutical compositions useful for ~~the preparation of pharmaceutical or nutraceutical compositions useful for~~ the treatment and prevention of peripheral vascular diseases and peripheral neuropathies which comprises adding a compound to said composition a carrier or vehicle to form the composition, the [[a]] compound [[of]] having formula R-X wherein X is a primary alcoholic functional group $-CH_2OH$, a carboxylic functional group $-COOH$ or a C₁-C₄ alkyl ester group, and of mono-, di- and tri-glycerides of acid compounds R-COOH and of pharmaceutically acceptable salts of those acids, wherein R is [[a]] an unsaturated hydrocarbon chain having from 19 to 35 carbon atoms, ~~which is saturated or unsaturated~~, including from one to five ethylenic or acetylenic unsaturations, linear or branched, including from one to five methyl branches, and optionally substituted by from one to three hydroxyl groups.

3. (Previously presented) A method according to claim 1 wherein said composition is pharmaceutically useful in the treatment or prevention of atherosclerosis, hypercholesterolaemia, cardiovascular diseases of the ischaemic or atherosclerotic type, peripheral vascular diseases and peripheral neuropathies.

4. (Currently amended) A method according to claim 1 wherein said composition is pharmaceutically useful in the treatment of ageing processes in humans, ~~in particular~~ cerebral ageing and degenerative brain diseases.

5. (Previously presented) A method according to claim 1, wherein said composition is useful for restoring the membrane fluidity of ghost cells and blood platelets.

6. (Previously presented) A method according to claim 1, wherein said compositions are effective as nutritional integrators for weight loss, the prevention and treatment of cellulite, the strengthening of muscle and the improvement of physical fitness in humans and animals.

7. (Previously presented) A method according to claim 1, wherein said composition is in the form of a cosmetic that is useful in the treatment and prevention of skin damage caused by free radicals.

8. (Previously presented) A method according to claim 1, wherein said compound comprises from 25 to 31 carbon atoms.

9. (Currently amended) A method according to claim 1, wherein said compound R-X has the general formula $R_2 = R_1-X$, wherein X has the meaning defined above and wherein R_1 and R_2 have a total of from 23 to 35 carbon atoms, preferably from 25 to 31 carbon atoms, and R_1 is a saturated linear hydrocarbon chain having from 4 to 15 carbon atoms and R_2 is a hydrocarbon chain having from 8 to 22 carbon atoms which is saturated or unsaturated, including from one to four ethylenic or acetylenic unsaturations, linear or optionally branched, including from one to four methyl branches, and optionally substituted by from one to three hydroxyl groups.

10. (Previously presented) A method as defined in claim 9, wherein R_1 is a hydrocarbon chain having from 7 to 13 carbon atoms and R_2 is a hydrocarbon chain having from 10 to 20 carbon atoms.

11. (Previously presented) A method according to claim 9, wherein R_1 is a linear hydrocarbon chain having 9 carbon atoms and R_2 is the chain of a saturated or unsaturated naturally occurring fatty acid.

12. (Previously presented) A method according to claim 10, wherein R_2 is a hydrocarbon chain of oleic, linoleic, linolenic, ricinoleic or farnesylic acid.

13. (Original) Compounds of the general formula

$$R_2=R_1-X,$$

wherein X is a primary alcoholic functional group $-CH_2OH$, a carboxylic functional group $-COOH$ or a C₁-C₄ alkyl ester group,

wherein R₁ and R₂ have a total of from 23 to 35 carbon atoms and R₁ is a saturated linear hydrocarbon chain having from 4 to 15 carbon atoms and R₂ is a hydrocarbon chain having from 8 to 22 carbon atoms which is saturated or unsaturated, including from one to four ethylenic and/or acetylenic unsaturations, linear or optionally branched, including from one to four methyl branches, and optionally substituted by from one to four hydroxyl groups, their pharmaceutically acceptable salts and mono-, di- and tri-glycerides of acids R₂ = R₁-COOH.

14. (Original) Compounds according to claim 13, wherein R₁ is a hydrocarbon chain having from 7 to 13 carbon atoms and R₂ is a hydrocarbon chain having from 10 to 20 carbon atoms.

15. (Previously presented) Compounds according to claim 13, wherein R₁ is a saturated linear hydrocarbon chain having 9 carbon atoms.

16. (Currently amended) Compounds according to claim 42 13, wherein R₂ is the hydrocarbon chain of a naturally occurring fatty acid.

17. (Currently amended) Compounds according to claim 13, selected from the group consisting of:

- octacosa-10,19-dienoic acid,
- octacosa-10,19,22-trienoic acid,
- octacosa-1,19,22,25-tetraenoic acid,
- 14,18,22-trimethyltricosanoic acid,

corresponding primary alcohols of 18,19 octacosadiene, 10,19,20 octacosatriene, 1,19,22,25 octacosatetraene and 14,18,22 trimethyltricosa 10,13,17,21 tetraene, and

- C₁-C₄ alkyl ester of ~~these acids~~

- octacosa-10,19-dienoic acid,

- octacosa-10,19,22-trienoic acid,

- octacosa-1,19,22,25-tetraenoic acid,

- 14,18,22-trimethyltricosa-10,13,17,21-tetraenoic acid,

- primary alcohols of 18,19 octacosadiene, 10,19,20 octacosatriene, 1,19,22,25 octacosatetraene and 14,18,22 trimethyltricosa 10,13,17,21 tetraene.

18. (Currently amended) Compounds according to claim 17, ~~in the form of the~~ wherein the C₁-C₄ alkyl ester is an ethyl ester.

19. (Currently amended) Pharmaceutical, nutraceutical, dietetic integrator or cosmetic compositions including a compound as defined in claim 13 in association with anti-oxidant vitamins, carnitine or its alkanoyl derivative.

20. (Previously presented) A method according to claim 1 wherein said composition is pharmaceutically useful for the treatment and prevention of pathologies related to a high concentration of cholesterol and lipids, and pathologies associated with an increased ability of blood platelets to aggregate and with a reduced concentration of oxygen.

21. (New) A pharmaceutical, nutraceutical, dietetic or cosmetic composition, including a compound of claim 1 in an effective amount to provide an antioxidant effect to a patient in need thereof.

22. (New) A method of claim 2, wherein said compositions are useful for the treatment of vascular diseases.

23. (New) A method of claim 2, wherein said compositions are useful for the treatment of diabetic peripheral neuropathy.